Conservation and Renewable Energy in the Northwest

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Benefits of Efficiency& Renewables

- Lower Electricity Bills – reduce use without reducing services
- Reduce Risk – diversify resource portfolio, reduce market purchases and fuel price risk
- Reduce Peak Constraints – both transmission and generation
- Create Jobs – efficiency programs employ approx. 53 people/per million spent vs. 33 people long-term employed in construction of thermal projects. Over 10,000 jobs in efficiency industry in the region.

More Benefits

- Local Economic Development – most efficiency contractors are local companies, renewables use local resources. Almost all WA natural gas is imported into the region.
- Environmental Benefits – no to very limited air and water emissions, including greenhouse gases; no to low water use; renewables save 1,680 pounds of CO2 for every 1,200 kilowatt hours they produce.
- Fastest, cheapest and cleanest way to lighten our load on the region's energy system!

Mid 1990's Conservation Investments Plummet

- 75% decline in commitments
- Why?

  - Natural gas-fired power plants made technology breakthrough

  - Gas prices very low

  - Restructuring of the industry - uncertainty
- Impacts - job loss and lost opportunities

Renewables Slow to Catch On

- 1998 Vansycle Ridge project in Pendleton, OR - 1st wind project in the region. Developed by PGE and EWEB
- 1999 Foote Creek Rim project in Wyoming. Developed by PacifiCorp
- Newberry Crater geothermal project permitted but never developed

2000-01 Energy Crisis Stimulates Action

- Had utilities maintained investments at 1993 pace through 2000 - saved another 365 aMW and added 100 MW of renewables = up to $1.7 billion paid in power costs during crisis!

Renewables Response

Wind:

- Stateline and Nine Canyon in WA
- Klondike, Condin in OR
- At least half dozen projects with permits or plans

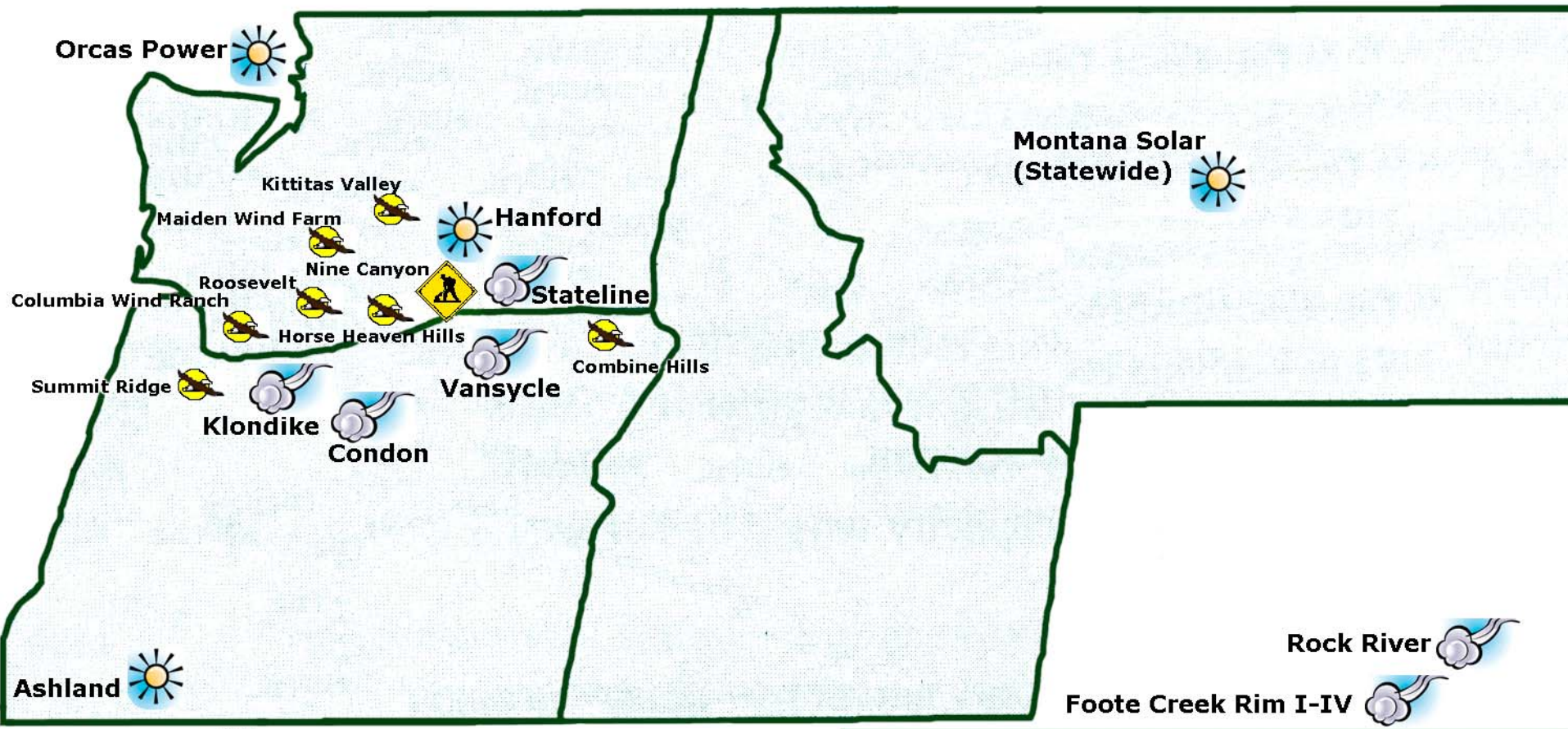
Solar:

- Ashland, Orcas and Energy NW have active solar projects

Geothermal:

- Glass Mountain project in CA under construction

Northwest Renewable Projects
2002



New Resource Potential Study

- Tellus Institute assessment of the potential for efficiency and renewables through 2020
- Regional potential - 4 NW states

Efficiency Opportunities

- Residential – space heating, lighting, water heating, refrigeration, electronics
- Commercial - space conditioning, lighting, refrigeration, O&M, transformers, clothes washers, internet data centers
- Industrial – motors, motor systems, transformers, aluminum processing, O&M. traffic signals, irrigation pumping & scheduling
- CHP – commercial and industrial

Efficiency Potential 2020

- Draft findings: total electricity savings -

  Over 4500 aMW by 2020

Renewables

- Wind
- Low Emission Biomass – Ag residues, forest and poplar residues, logging and mill residues, landfill and sewage gas, black liquor (co-firing, refurbishing old boilers)
- Geothermal – flash steam and binary-cycle
- Solar

Renewables Potential -2020

- Draft Findings: Total Renewable Potential

  Almost 10,000 aMW (WA over 1/3)

  Ave. cost between 4-6 cents

Capturing the Benefits

- Need stable long-term funding, incentives and delivery
- Oregon's 3% system benefits charge and Washington's green power option have significantly boosted the sale of renewable energy
- Statewide policies maximize consumer participation, public education opportunities, and developer and utility investments

Capturing the Benefits

- Establish business & residential tax credits or exemptions for investments in efficiency and renewables
- Continue support for regional market transformation efforts
- Update building codes and permitting
- Adopt efficiency standards for appliances and equipment not covered federally
- Government leadership - energy savings goal and renewable energy purchase requirement

Capturing the Benefits

- Statewide standard to ensure continued development of new renewables
- Statewide standard to ensure achievement of all cost-effective energy savings